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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/996,423	11/28/2001	John Whitman	4294.3US (98-1208.3)	2810

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EXAMINER

PHAM, THANH V

ART UNIT

PAPER NUMBER

2823

DATE MAILED: 04/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/996,423

Applicant(s)

WHITMAN ET AL.

Examiner

Thanh V Pham

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 February 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4, 7-11, 14-16 and 20-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-11, 14-16 and 20-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

***Response to Amendment and to Arguments***

1. The Preliminary amendment filed 03/21/02 had been entered. The communication stated to be filed on 06/04/02 mentioned in and used for the objection and rejections in the office action mailed 11/01/02 is the Preliminary Amendment dated 03/12/02 received on 03/21/02.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. The amendment to claims 1, 4, 7, 11, 14 and 20 filed on 2/25/03 is sufficient to overcome the 35 U.S.C. 101, 35 USC 112 rejections about the spinning and speed in the Office action mailed 11/01/02. However, claims 1, 7 and 14 are still rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
4. The term "gradually" in claims 1, 7 and 14 is a relative term which renders the claim indefinite. The term "gradually" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. *The applicant's argument on page 9 is agreeable on the Yoshihara's "quick changes in rotation speed" but still does not clearly state at what rate the increasing is recited.*
5. Claims 1-4, 7-11, 14-16 and 20-32 are now rejected under 35 U.S.C. 103(a) as being unpatentable over Rodrigues U.S. Patent No. 5,405,813 and the following reason.

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The Rodrigues reference discloses a spin coating method comprising: applying a material to a substrate; spinning said substrate and said material at the first speed (abstract); decelerating to the second speed; then accelerating to a third speed. The substrate is accelerated to a fourth speed to further set the material. The Rodrigues reference's related prior art (the Background and col. 4, lines 6-13) teaches spinning the substrate and the material at a first speed. *At any point, during the photoresist applying step an amount of photoresist material has been applied and is being spun at a first speed followed by decreasing the speed.*

Rodrigues teaches all steps of the instant invention but lacks a clear teaching on filling recesses at first speed and letting the material set at second speed.

It would have been inherently include in the rotation speeds that the material when spread over the surface of a wafer would fill the recesses at a first speed and would set at a second speed; however, if not, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the appropriate speeds for the two rotations to have the material fill the recess and to set into the process of Rodrigues because such rotation speeds would have been selected in accordance within the spin coating art to have a desired coating thickness as taught by Rodrigues.

As admitted (specification's page 13, lines 7-8), the edge bead removal technique is known; therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the fifth speed to remove the solvent from said material because such an extra step would have been applied as one of the method to rinse off the solvent used in the bead removal.

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6. Claims 1-4 are now rejected under 35 U.S.C. 102(a) as being anticipated by Yoshihara U.S. Patent No. 6,117,486 (provided by the applicants).

The Yoshihara reference discloses a coating method comprising: applying a material to a substrate; spinning said substrate and said material at the first speed; decelerating to the second speed; then accelerating to a third speed. *In view of the subjectivity associate with "gradually" discuss above, the rate of increase of the spinning speed disclosed by Yoshihara is encompassed by "gradually increasing".*

#### **Conclusion**

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh V Pham whose telephone number is 703-308-2543. The examiner can normally be reached on M-T (6:30-5:00).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on 703-306-2794. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7382 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

TVP  
April 11, 2003

  
George Fourson  
Primary Examiner